



March 5, 2021

Via Email/Sharefile

Mr. Andrew Park & Mr. Sameh Abdellatif
Hazardous Waste Programs Branch
US Environmental Protection Agency Region 2
290 Broadway, 22nd Floor
New York, New York 10007-1866

**Re: Response to NJDEP Comments – Site Investigation Summary PowerPoint Presentation Response to Comments (November 20, 2020 Comments) Hess Corporation Former Port Reading Complex (Site)
750 Cliff Road
Woodbridge, Middlesex County, New Jersey
NJDEP PI# 006148
ISRA Case No. E20130449
EPA ID No. NJD045445483**

Dear Mr. Park:

Earth Systems, Inc. (Earth Systems) has prepared this letter on behalf of Hess Corporation (Hess) regarding the comments provided by the New Jersey Department of Environmental Protection (NJDEP) and Environmental Protection Agency (EPA) relating to the "AOC 103 Site Investigation Summary PowerPoint Presentation" on August 17, 2020. This response letter is being submitted in conjunction with the Marine Loading Dock Remedial Investigation Workplan (RIW), which includes Area of Concern (AOC) 103.

NJDEP Comments & Earth Systems/Hess Responses

NJDEP Comment 1: The geologist boring logs for FA-6 and FA-7 in the PowerPoint presentation are the same. Please clarify which well location the log belongs to and provide the missing well boring log. The logs should also be included in the Well Manual after the FA-6 and FA-7 boring log issue is resolved, and the missing boring log located.

Earth Systems/Hess Response 1: The well logs for all of the AOC 103 wells (FA series)

are included in both the RIW, being submitted in conjunction with this letter, and the Well Manual. A link to the current Well Manual will be provided with the submittal of this RIW.

NJDEP Comment 2: Throughout AOC 103, wells are placed in two perpendicular lines that intersect. Radial flow is seen within the AOC and additional wells off the two lines may need to be installed.

Earth Systems/Hess Response 2: Additional wells have been proposed as part of the groundwater investigation of AOC 103 due to possible radial flow in the area. Proposed monitoring wells are illustrated on **Figure 10** of the RIW.

NJDEP Comment 3: During the PowerPoint presentation, no information was available on mixing, delivery on storage of firefighting foam materials during the period of use. Containers or tankers in the area of the fire training area/fire pits are possibly seen in the 1969, 1970, and 1972 aerial photos. Furthermore, radial flow from FA-1 flows to this area. Confirm if fire-fighting containers and/ or tankers were staged here. If adequate evidence cannot be provided, it will be assumed to be associated with the fire training activities (fuel, water, fire-fighting products, etc.) and will have to be included as part of the AOC 103 investigation.

Earth Systems/Hess Response 3: No additional information is available regarding the historic use and storage of fire-fighting foam in the AOC 103 area. Should additional information outlining the use and storage of fire-fighting foam be uncovered, that information will be provided. As part of the ongoing investigation currently being proposed, potential impacts related to polyfluoroalkyl substances (PFAS) compounds will be investigated. Proposed soil borings and monitoring wells are illustrated on **Figures 9c and 10** of the RIW.

NJDEP Comment 4: The following is requested when the AOC 103 report is submitted:

- A well gauging summary table should be provided in the RIR that includes well gauging data for the June 18, 2020 gauging event, and subsequent gauging events. The table should include well construction, well survey and well gauging dates/data with calculated ground water elevations.
 - Gauging tables have been included in **Appendix D** of the RIW. Well construction information for the FA wells is included in the Well Manual, which is continuously updated and revised, as necessary.
- Cross-sections should be as detailed as possible using boring log information available from SIR, monitor well installations, etc., including field screening information. One section was provided adjacent to the Arthur Kill; additional sections should be generated for the area, e.g., perpendicular to the river and through the fire training/fire pit areas. The following are some of the differences noted beneath the historic fill interval:
 - FA-2 and FA-6 (and/or FA-7, see “Additional” below) cross a clayey silt unit (2-3’ thick).
 - FA-5 is completed in a coarser gravelly sand unit.
 - Meadow mat was not observed at FA-3 and FA-4 well borings.
 - Cross-sections for the Site are included in the Conceptual Site Model (CSM). The CSM is currently being developed and will be submitted

shortly. However, in the interim, select figures from the CSM have been included in **Appendix B** of the RIW.

- Data tables that provide GWQS should be updated to reflect that criteria for PFOA (0.014 ug/L) and PFOS (0.013 ug/L) were adopted and became effective June 1, 2020.
 - Analytical data tables include the above referenced standards.
- Figures should include SIR soil sample locations. This was identified in the November 19, 2020 letter from EPA as information to be included on figures now or in the report, along with other reporting requirements. The boring logs and field screening data are relevant to the investigation. All boring logs that are part of the investigation area should also be provided as an appendix to the report.
 - Historic soil analytical results are discussed in **Section 4.4** and illustrated on **Figure 6b** of the RIW. Boring logs are included in **Appendix A** of the RIW.
- LNAPL impacts observed at FA-5 (see quarterly progress reports) should be discussed and investigated. The LNAPL measurements at FA-5 were not expected based on FA-5 boring log provided in the Power Point presentation. LNAPL could have been expected at FA-3 based on boring log PID hits and “sheen on water” observation but is not measured at that location.
 - As explained in **Section 5.5** and **6.0** of the RIW, additional investigation is recommended to delineate LNAPL detected in monitoring well FA-5.
- The boring logs for FA-6 and FA-7 in the Power Point presentation are the same. Please clarify which well location the log belongs to and provide the missing well boring log in the report.
 - The well logs for all of the AOC 103 wells (FA series) are included in both the RIW and the Well Manual.

NJDEP Comment 5: Response to 1 and 2

Based strictly on the aerial photographs, well locations proved are accepted.

- Confirm that FA-10 on Figure 2 and Figure 3 is within the drainage way that appeared to connect fire training/fire pit area drainage to the North Ditch.
 - Earth Systems is unclear as to what monitoring well the NJDEP is referring to in this comment. Existing and proposed monitoring wells are illustrated on **Figure 10** of the RIW. Existing monitoring well FA-6 and proposed monitoring well FA-20 are both located within/adjacent to the former potential drainage channel identified by the NJDEP in historic aerial photographs.
- No investigation is shown on Figure 4 within the 1972 aerial photo feature currently within AOC 91. Please explain the “no investigation” within the 1972 aerial photo feature in AOC 91.
 - Soil and groundwater investigation is proposed within the footprint of AOC 91. Proposed soil borings are illustrated on **Figure 9b** and proposed groundwater locations are illustrated on **Figure 10**.
- Well FA-7 is shown outside of the area reflected on Figure 2 and Figure 3 and may not represent a maximum impact. The area on the aerial photo will need further investigation.

- Additional monitoring wells are proposed to delineate groundwater impacts detected in monitoring well FA-6, see **Figure 10** in the RIW. Proposed monitoring wells FA-19 and FA-20 should provide additional data regarding the extent of PFAS groundwater impacts in this area.

NJDEP Comment 6: Response 3 and 4: There are variations in flow conditions

- The June 2020 contour map illustrates radial flow conditions at FA-1, a PFAS-compound impacted well. This will need to be evaluated with the investigation and may warrant additional wells (refer to general comment #2).
 - Additional wells have been proposed as part of the groundwater investigation of AOC 103 due to possible radial flow in the area. Proposed monitoring wells are illustrated on **Figure 10** of the RIW.
- The hydraulic lows at FA-3 and FA-4 are not reflected on the contour map. FA-3 and FA-4 are hydraulic lows compared to surrounding wells, so there is some question about the location of the 3.5' and 3' contour lines as shown. These are also two wells that did not identify the meadow mat unit within the well completion interval (> 15' bgs). Confirm hydraulic lows at FA-3 and FA-4 and adjust the contour lines appropriately.
 - A current shallow groundwater contour map is included as **Figure 5** in the RIW. Groundwater gauging tables for the FA wells are included in **Appendix D**.
- Absent investigation at the 1972 aerial photo area, the Department suggests that the location of FA-13 be more inland to provide water quality and elevation information between FA-5 and FA-6 areas and the bulkhead area. The FA-13 location, as well as the rest of the proposed perimeter wells, are all in a line behind the bulkhead and adjacent shoreline.
 - As discussed in **Section 6.2** of the RIW, additional monitoring wells have been proposed to investigate AOC 103. Proposed monitoring wells are illustrated on **Figure 10**.
- FA-11, FA-12, FA-13 and FA-14 are perimeter locations. Ground water quality data from the fire training/fire pit will have to be evaluated with water quality data at perimeter locations and flow conditions in delineation determinations.
 - All analytical data, for both existing and proposed AOC 103 monitoring wells, will be utilized in the evaluation of groundwater conditions in the area.
- Bulkhead construction information is crucial for AOC 103 because the construction of the bulkhead can affect the flow of contaminants (i.e. the bulkhead can dampen tidal influence, material behind bulkhead can cause the area to be more/less tidally influenced, low permeable fill behind bulkhead could cause backflow into the AOC). Bulkhead construction information will have to be evaluated with ground water flow and water quality information and included as part of the AOC 103 report.
 - Bulkhead construction information has been included in the Site CSM that is being developed. Groundwater data from existing and proposed monitoring wells for AOC 103 will be evaluated in conjunction with the bulkhead construction information.


- Tidal influence will have to be evaluated. Based on current well locations, tidal stage will have to be considered when wells are sampled.
 - The tidal stage will be recorded when monitoring wells for AOC 103 are sampled. The analytical results will be evaluated in conjunction with the tidal stage and a determination made if additional sampling will need to be conducted during other tidal stages.

NJDEP Comment 7: Construction information of the pipeline will be required to be included in the AOC 103 report.

Earth Systems/Hess Response 7: All pipelines are illustrated on **Figure 2** and **Figure 4** in the RIW. Earths Systems is unclear as to what pipeline the above comment is referring to since there are no pipelines present in the AOC 103 area.

Should you have any questions or require additional clarification or information, please contact me at 732-739-6444 or via e-mail at ablake@earthsys.net. If you have any questions relating to the project and schedule moving forward, you can also contact Mr. John Schenkewitz of Hess Corporation at 609-406-3969.

Sincerely,



Amy Blake
Sr. Project Manager

- c. Ms. Julia Galayda, NJDEP Case Manager (via email/Sharefile)
Mr. John Schenkewitz – Hess Corporation (via e-mail)
Mr. Rick Ofsanko – Earth Systems (via e-mail)
Mr. John Virgie – Earth Systems (via e-mail)